County of San Diego Department of Parks and Recreation Green Report 2007-2015

PARKS AND RECREATION
COUNTY OF SAN DIEGO

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Introduction

OUR VISION

A park and recreation system that is the pride of San Diego County.

OUR MISSION

We enhance the quaity of life in San Diego County by providing opportunities for high level parks and recreation experiences and preserving regionally significant natural and cultural resources.

OUR STRATEGIC INITIATIVES

- Safe Communities
- Sustatiable Environment
- Healthy Families

OUR GOALS

The Department's Strategic Plan defines major goals and objectives over a five year period. Our driving goals for 2012-17 are:

Community

Make parks and recreation accessible to everyone.

Sustainability

Operate a sustainable park system by implementing the Cost Recovery, Resource Allocation and Revenue Enhancement Plan.

Environment

Strengthen the connection between people and the outdoors.

Health

Foster healthy lifestyles.

Through regular needs assessments and collaboration with the community, we actively plan for the future projects needed to serve our growing population. The projects listed in this Green Report have been identified as a roadmap to ensure we have the green facilities to move toward our vision, accomplish our mission and achieve our goals.

The Green Report provides an overview of completed green projects throughout the County parks and recreation system from 2007 - 2015 as well as a description of conservation achievements, ongoing programs and the green projects that are under construction or in the planning phase.

Conservation Achievements

WATER

San Diego County Department of Parks and Recreation (DPR) resolved to reduce water consumption within its 44,000-acre service area consisting of open space preserves, community centers, historic sites, and local and regional parks. In 2010, DPR commissioned the San Diego County Department of Parks and Recreation Water Conservation Plan. The goals of DPR's water conservation program are to decrease water consumption and related costs, track, document and publish the results while preserving environmental quality, cultural heritage and public services that DPR has been committed to since 1946. DPR's water conservation strategy continues to evaluate technologies and practices along with associated water savings potential.

DPR's water conservation methods were broken down into near, medium and long-term categories to provide a sense of what would be feasible now and well into the future. Due to the unpredictable public water supplies imported from other regions of the country, technology evolution, variable water rates and fee structures at the 43 San Diego County water agencies, DPR did not attempt to calculate returns for specific investments. Instead, DPR prioritizes water conservation measures that are most cost effective, can rapidly be put in place, be operated and maintained with relative ease.

Since 2009, DPR has installed high efficiency irrigation heads and Calsense smart irrigation controllers in 20 County parks, which has enabled the County to save over 180 millions of gallons of irrigation water. The avoided irrigation costs have allowed park staff at those 20 facilities to use a significant amount of their expense budgets on other areas within those facilities. In June 2015, DPR reached its operational plan water conservation goal for Fiscal Year 2014/15 to save 30 million gallons at smart irrigation controller converted facilities, and by Fiscal year end (June 2015), DPR saved over 40 million gallons of water. Since 2009, DPR has also saved thousands of gallons of water by using recycled water for irrigation; by installing waterless urinals, low-flush toilets, efficient faucet change-outs; 24 synthetic turf ball fields since 2007, which require less than 10% of the water needed for standard grass fields; living roofs; and two aquatic playgrounds that recycle, clean and filter the water. DPR water conservation efforts were selected as the recipient of the 2011 National Association of County Parks and Recreation Officials' Environmental/Conservation Award.

Completed Water Conservation Projects

High Efficiency Irrigation Heads and Smart Irrigation Controller Upgrades at Various County Parks

In an effort to save water and money, DPR completed retrofits of high efficiency irrigation heads and smart irrigation controllers at nineteen County parks from 2009 - 2015. The improvements not only reduced irrigation needs by over 30%, but also reduced time devoted to irrigation maintenance. This project marks the completion of retrofit projects in conjunction with recommendations provided by Metropolitan Water District audits. The retrofits were successful at Whaley House Complex, 4S Ranch Sports Park, Heritage Park, Campo Community Center Park, Clemmens Lane Park, Collier Park, Cottonwood Park, Eucalyptus Park, Goodland Acres Park, Guajome Regional Park, Hiltonhead Park, Lindo Lake Regional Park, Lonnie Brewer Park, Nancy Jane Park, Rancho Guajome Adobe, San Dieguito, Park, Hilton Head Park, Spring Valley Park, Steel Canyon Park, Sweetwater Summit Regional Park, Felicita Park and Woodhaven Park. DPR will retrofit additional parks in 2016 and beyond. All parks retrofitted with Calsense's controllers are monitored and operated by a web-based system that was developed exclusively for the County of San Diego. Since its inception in 2009, the irrigation upgrades have saved the County of San Diego over 180 millions of gallons of irrigation water.

San Dieguito Regional Park Reclaimed Water Conversion and Smart Irrigation Controller Retrofit

The conversion of the irrigation system to recycled water use in the 10-acre lower park area of San Diegutio Regional Park was completed in 2011. To maximize the efficiency of the irrigation system, Calsense smart irrigation controllers were also installed in the lower park. Converting the lower park from potable irrigation water to recycled water will save approximately 50 acre-feet of potable water annually, or enough water to provide 100 single family homes with water for a year.

In December 2012, the last remaining standard controller at San Dieguito park was converted to a smart controller.

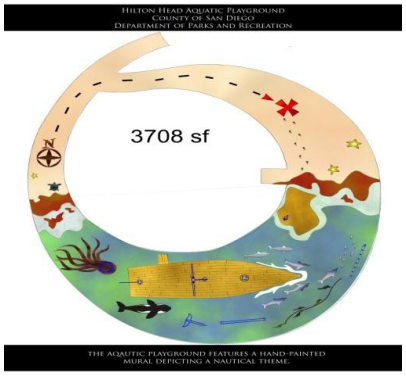
Hilton Head Park Aquatic Playground

The County of San Diego Department of Parks and Recreation opened its first aquatic playground at Hilton Head Park in October 2008, offering children a safe and refreshing outdoor recreational environment. The $1.6 million nautical themed project features an innovative recirculating filtration system to conserve and purify water, benefiting the environment and saving taxpayer dollars. The wondrous deep-sea aquatic playground provides residents of east San Diego County an escape from frequent triple digit temperatures.

The aquatic playground at Hilton Head Park was designed to take advantage of a new innovative recirculating filtration system that provides broad-spectrum bacteria killing ultraviolet and chlorinated disinfection, rendering bacteria such as cryptosporidium and ecoli completely harmless. DPR realized that this new filtration system would not only help to conserve an estimated 527,000 gallons of potable water, 6,876 kilowatt hours (kWh) of energy and 2.44 metric tons (mt) of CO2 emissions annually, but it would also save taxpayer dollars spent on potable water that would otherwise be lost through the storm drains, on the energy required to pump the additional potable water from the San Diego County Water Authority to the Otay Water District pumping stations and to Hilton Head Park and on the purchase of carbon offsets costs for CO2 emissions.

The recirculating filtration system was selected for the aquatic playground because of its proven filtration equipment, its water and energy savings features and its long-term durability and ease of maintenance. The recirculating system offers superior filtration capabilities through a 4,000-gallon water collection tank, dual sand filters, chlorine and acid treatment equipment, an ultra violet disinfection module, heavy duty filtration pumps, 220 gallons per minute feature flow, a water distribution manifold, and a state-of-the-art computer system that is designed to monitor and regulate the system continuously to conserve water and energy usage and to automatically shut off the aquatic playground when it is not in use.

DPR also worked collaboratively with Little Tikes, Masterpiece Concrete Compositions and Waterplay, Inc. to design and construct an aquatic playground based on a nautical theme that features the mysterious creatures of the deep, the search for buried treasure and a battle at sea between two rival pirate ships. The design for the project also emphasizes energy conservation through the use of recycled materials that includes playground structures and surfacing that are made from recycled plastic and recycled tires.



The Hilton Head Park aquatic playground has received many local and state awards including a Sandee award for Outstanding Organizational Achievement in Energy by a Government Agency, a California Park and Recreation Society Award of Excellence and a National Association of County Park Officials award in recognition of outstanding accomplishment in the field of parks and recreation. A similar aquatic playground was built at Sweetwater Regional Park in 2011.

Restroom Plumbing Upgrades at Various County Parks

In an effort to conserve water and reduce maintenance, DPR has replaced old plumbing fixtures and equipment at the Spring Valley Gym/Teen Center, Spring Valley Community Center, Felicita Park, Potrero Regional Park, Guajome Regional Park, Sweetwater Summit and Dos Picos Regional Park with waterless urinals, water efficient (dual flush) toilets and faucet change-outs. Faucets and shower heads were also replaced with Americans with Disabilities Act (ADA) compliant low flow automatic turn-off push button fixtures and all water fountains were replaced with ADA compatible models.

San Dieguito Regional Park Miracle Field

San Dieguito Park is a 125-acre park located in Del Mar, CA and is home to the Miracle Field, a fully accessible baseball field that accommodates children and adults with special needs. San Dieguito Regional Park offers a variety of recreational activities including playgrounds, exercise stations, a basketball court, pavilions, a wedding gazebo, large open lawn areas, picnic areas and BBQ's.

The Miracle Field was converted from an underused natural turf ball field to a synthetic turf baseball field to make it fully accessible to individuals with disabilities and to save water. The 200' Miracle field incorporates ADA design guidelines, and field dimensions and striping specifications provided by Miracle League USA and the National Wheelchair Softball Association. A key component of the construction of the Miracle field includes a completely flat cushioned rubber surface designed to eliminate physical barriers for wheelchair bound or visually impaired players. The surfacing also helps to ensure that children with special needs can safely play baseball. Mondo Super X rubber surfacing was selected for the surface of the field because of its ability to withstand a wide range of force reduction and friction impacts from athletes. The unique geometric construction of Mondo surfacing gives it superior deformation properties that provide exceptional cushioning, point load recovery and energy return at the same time. The Mondo rubber surfacing also helps to save water that would otherwise be used to irrigate a natural turf ball field.

The San Dieguito Park Miracle Field has received many local, state and national awards including a Project of the Year Award from the American Public Works Association, a California Park and Recreation Society Award of Excellence and an Achievement Award from the National Association of Counties.

Lakeside Baseball Park

The Lakeside Baseball Park facility was constructed in 2009 on ten acres of County-owned property in Lakeside, CA. The park facility features four artificial turf tournament-play lighted synthetic turf fields, concession and restroom building, maintenance building, batting cages, on-site volunteer residence, tot lot play area, picnic facilities, perimeter walking and parking for 150 cars.

The Lakeside Baseball Park received a Project of the Year Award from the American Public Works Association.

Sweetwater Regional Ballfields

The construction of the Sweetwater Regional Ballfields facility was completed in 2007 on approximately ten acres of land previously owned by the Sweetwater School District. The property was purchased and improved by Caltrans and transferred its ownership to the County of San Diego as part of the mitigation for impacts the construction of the SR 125 freeway had on Sweetwater Regional Park. The Sweetwater Regional Ballfields facility, located in Bonita, California, features five synthetic turf fields and one natural turf field, a concession and restroom building, bleachers, batting cages, picnic facilities, perimeter multi-use trails and a paved parking lot for 200 cars.

4S Ranch Sports Park Ballfields

Replaced the natural turf of four permanent Little League baseball fields, three multi-purpose fields and one full size soccer field with water-saving synthetic turf in 2013 and 2015 at 4S Ranch Sports Park, which is a five-acre park located in 4S Ranch. Multi-use capabilities allow soccer overlays for several more youth fields during the soccer season. The replacement of natural turf with artificial turf is expected to reduce water consumption, maintenance requirements, and allow the fields to be used year round.

Sweetwater Lane Park Ballfields

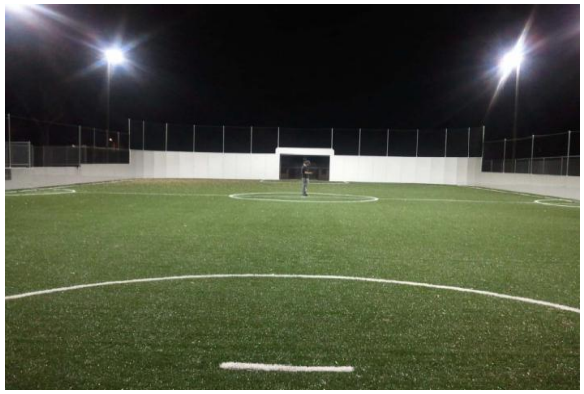
Replaced the natural turf of four baseball/softball fields and seven soccer fields with water-saving synthetic turf in 2013 at Sweetwater Lane Park, which is an eleven-acre park located in Spring Valley.

Collier Park Soccer Arena

The Collier Park soccer arena is the first sports facility of its kind built in San Diego County. The state-of-the-art facility provides a venue for local and regional youth and adult soccer league games and tournaments and a variety of other recreational activities and events. The construction of the soccer arena consists of a regulation sized soccer field, with playable walls, and a parking lot that incorporate ADA design guidelines and "green" technologies that help the County of San Diego conserve energy and water. The soccer arena also incorporates ADA design guidelines that allow disabled children and adults to access the soccer arena for sports, recreational activities and special events. Custom designed gate latches and clear Plexiglas viewing panels were added to the soccer arena to provide ADA access to the soccer field and spectator viewing areas for disabled children and adults.

The Collier Park soccer arena is the result of a successful partnership between the County of San Diego and the Boys & Girls Club of Greater San Diego. A key component of the construction of the Collier Park soccer arena includes artificial turf surfacing designed to conserve water and to provide a stable, flat, ADA accessible surface for year-round use under all weather conditions. The artificial turf surfacing was selected for the Collier Park soccer arena because of its long-term durability, ease of maintenance and its proven water savings features, which will conserve an estimated 25,600 gallons of water annually.

The design for the lighting of the soccer arena was particularly challenging because Collier Park is located in the center of a residential area with homes positioned directly across from the soccer arena. Public surveys were conducted early in the design process to encourage public input on the lighting for the project. A negative declaration was also circulated for public review. The primary areas of concern that arose from the public review process included light pollution and energy use. Shielded energy efficient lighting for the soccer arena for league play in the evening was selected for the soccer arena to minimize light pollution. A photometric study and multiple nighttime lighting inspections were also conducted to ensure there were no lighting impacts on local residents. Solar powered lighting was selected for the parking lot to provide lighting for nighttime use and to further energy conservation. The use of energy efficient solar powered lighting is consistent with DPR's strategic initiative to reduce energy use throughout the County of San Diego's park system.



The highly versatile, state-of-the-art facility provides a venue for local and regional youth and adult soccer league games and tournaments, and a variety of other youth and adult sports, recreational activities and special events. The ADA accessible facility promotes energy efficiency and water conservation through the use of "green technology" and it supports an innovative recreational program that was designed to help at-risk youth to establish healthy social connections and to learn new life skills and behaviors that can help them lead a drug free, productive life.

The Collier Park Soccer Arena received a District 12 California Park and Recreation Society Achievement Award.

Clemmens Lane Park Soccer Field

Opened in December of 2009, Clemmens Lane Park is the newest County Park. Located in Fallbrook, CA this half-acre park contains a 45' x 90' practice synthetic turf soccer field, a sand volleyball court, junior and tot lot playgrounds, a picnic plaza with a covered pavilion and barbecues. In 2010, Clemmens Lane Park received a California Park and Recreation Society Award of Excellence in park planning and design for a neighborhood park.

ENERGY

The San Diego County Department of Parks and Recreation (DPR) considers energy efficiency for each capital improvement and major maintenance project. The goals of DPR's energy efficiency program are to decrease energy consumption and preserve natural resources while continuing to provide high quality DPR-based public services.

DPR's energy efficiency efforts are based on a self-sufficiency strategy, which includes a review of historical energy consumption, evaluation of opportunities, obtaining adequate funding, implementation of project(s), tracking of energy savings, and when the success threshold is achieved, repeating or improving upon the process for the next project.

Due to increasing costs for electricity, technology improvements, changes in electricity use and production regulation, incentives and consumption rates, DPR did not attempt to calculate returns for specific investments. Instead, DPR prioritizes energy efficiency projects that are most cost effective, can rapidly be put into place, and operated and maintained with relative ease.

A major achievement for DPR came in fiscal year 2011-12, when consumption data revealed that the Fallbrook and the Lakeside Community Centers consumed 50% less electricity compared to the year before photovoltaic systems were installed at each facility. Avoided electrical costs have allowed park staff at these two facilities to have more money in their expense budget to provide additional programs and services.

Completed Energy Efficient Projects

Goodan Ranch Nature Center

The Goodan Ranch Nature Center is located within Sycamore Canyon Preserve in Poway, CA. The preserve consists of 2,272-acres of coastal sage scrub and chaparral-covered hills including the 325-acre Goodan Ranch, a mix of grassland, riparian, coastal sage, oak woodland, mixed chaparral and more than 10 miles of trails. The Goodan Ranch Nature Center was built next to the original ranch house that was burned in the 2003 Cedar Fire. It houses a multipurpose demonstration room, exhibit room, staff office and support spaces. The center's focus is to stress the value of the region's natural and cultural resources while respecting the pristine natural setting of the Sycamore Canyon preserve's ecologies.

This LEED Silver certified 3,200 square foot building was designed for low site impact and high-energy efficiency. Many "green" technologies were incorporated into the design of the building including a solar powered photovoltaic system mounted on the roof, deep overhangs to limit summer heat gain with windows oriented to maximize winter heat gain and mechanical systems with integrated controls, high efficiency lighting, passive heating and cooling to reduce mechanical heating/cooling, tiered mechanical heating/cooling of selected building areas, ultra low-flow plumbing fixtures and fiber cement exterior siding for termite and fire resistance.

The Goodan Ranch Nature Center has received many local and state awards including a Sandee award for a Special Achievement in Energy by a Government Agency, NACPRO Environmental Conservation Award in recognition of outstanding accomplishment in the field of parks and recreation, California Park and Recreation Society Achievement Award and an SDG&E Sustainable Communities Champion Award.

San Elijo Lagoon Nature Center

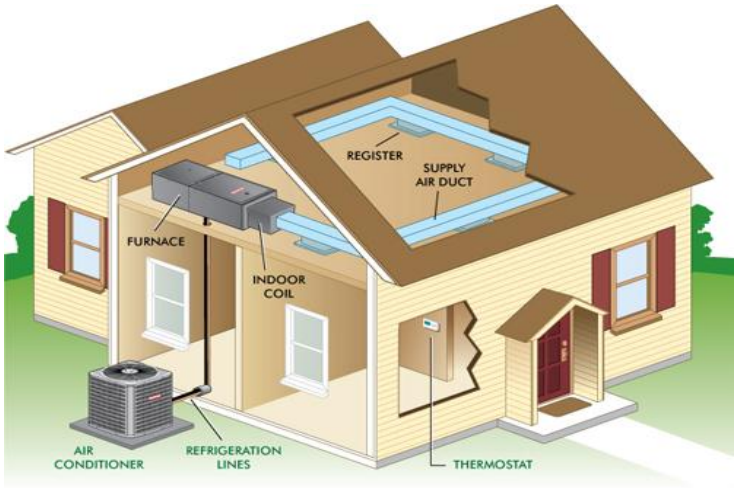
The San Elijo Lagoon Nature Center is located within the San Elijo Lagoon Ecological Reserve in Cardiff-by-the-Sea, CA. The ecological reserve consists of a coastal wetland and five miles of trails that contain various plant communities, including 300 species of plants, 16 species of reptiles and amphibians, and 26 species of mammals. The lagoon is especially known for its bird life. At least 300 species have been seen here, 76 of which are classified as sensitive. The nature center is located on the north side of the lagoon and was opened to the public in January 2009.

This LEED Platinum certified 5,525 square foot; two-story building was designed and constructed with a focus on the environment through energy efficiency, water conservation and natural resource preservation. Many "green" technologies were incorporated into the design, construction, and operations of the building including an energy-efficient radiant heat system encapsulated in the floors, energy conserving appliances, solar tubes and skylights for natural lighting, a "green" roof, water conserving toilets and landscape irrigation that use recycled water, and a solar powered photovoltaic system mounted on the roof, which has generated 65% of the buildings power since it opened in 2009, saving more than 16 tons of carbon dioxide. In addition, construction materials used throughout the building contain a high content of recycled materials including recycled denim for insulation and recycled concrete for the walls. The nature center also contains interactive exhibits that detail the lagoon's plant and animal communities, the history and development of the ecological reserve, and the various natural and human influences that affect the sensitive San Elijo Lagoon Ecological Reserve ecosystem.

The San Elijo Lagoon Nature Center has received many local and state awards including a Sandee award for a Special Achievement in Energy by a Government Agency, Honor Award for Sustainable Design by the Concrete Masonry Association, A Green Building of America Award from Green Building of America Southwest, an Associated General Contractors "Build San Diego Award" for Best Unique Small Public Works Project, California Solar Initiative Award, an Award of Excellence for Sustainability from the National Concrete Masonry Association, an Associated Builder and Contractors ABC Award, a California Park and Recreation Society Award of Excellence and an SDG&E Sustainable Communities Champion Award.

HVAC systems Upgrades at the Fallbrook and Lakeside Community Centers

Installed high-efficiency HVAC systems at the Lakeside and Fallbrook Community Centers and William Heise Park in 2011; projected to save 35% of the electricity consumed.



Photovoltaic Systems at Various County Parks

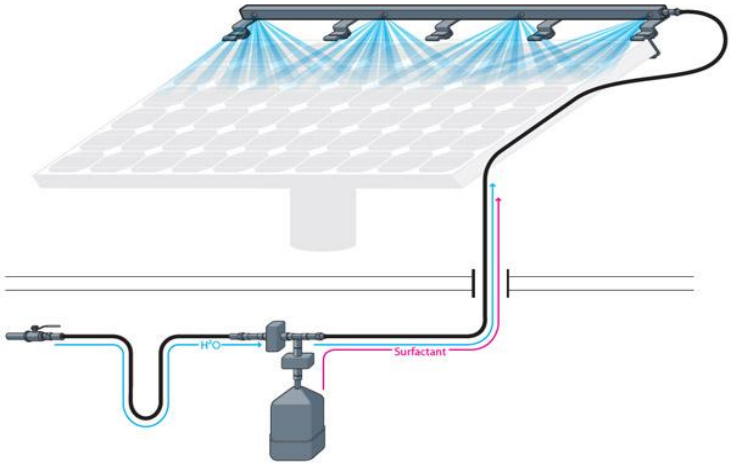
Installed photovoltaic (PV) systems at the Goodan Ranch Interpretive Center and at the San Elijo Lagoon Nature Center. Also installed a 45-kilowatt PV system at the Lakeside Community Center and a 25-kilowatt PV system at the Fallbrook Community Center, which were funded through grants from the American Recovery and Reinvestment Act (ARRA).

PV systems were also installed at the Spring Valley Community Center, Guajome Regional Park, and Sweetwater Regional Park, and a small PV system was installed at the pond at the Wilderness Gardens Preserve to serve as the pond pump's primary source of power.

Lakeside Community Center

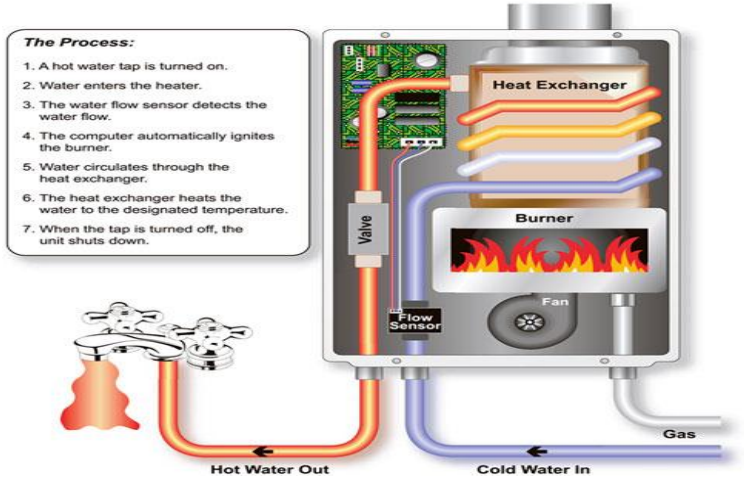
Lakeside Community Center Photovoltaic Panel Cleaning System Frequency Process

To optimize the electrical output of the photovoltaic (PV) system installed on the Lakeside Community Center, the first County PV self-cleaning system was installed. Using real-time electrical production data coming from the PV system, DPR developed a process to determine the frequency of the cleanings specific to the Community Center site.



Tankless Water Heaters at Various County Parks

Replaced standard water heaters with energy-saving tankless water heaters in the Fallbrook Community Center, Derby House, Guajome, Potrero, Dos Picos and Sweetwater Summit Regional Parks; projected 35% energy savings.



Indoor Lighting Retrofits at Various County Parks

Completed energy-efficient indoor lighting retrofits at the Lakeside, Fallbrook and Spring Valley Community Centers, Agua Caliente, Dos Picos, Lake Morena, Guajome, Fallbrook, William Heise, Lindo Lake, Sweetwater Lane, El Monte and Sweetwater Summit Parks.

Fallbrook Community Center

Energy Efficient Outdoor Lighting (LED's) at Various County Parks

Installed 180-energy efficient, vandal resistant LED light fixtures at Lindo Lake and Sweetwater Lane Parks that use 50% less energy and last more than 40 times longer than the existing lights. The LED lights include a high/low motion sensor to conserve energy (with a typical setting of 50% without motion, which produces ambient light), and they produce true light for greater visibility and color differentiation at night. The local law enforcement that monitors both parks have reported reduced crime and increased safety from the lighting improvements. Outdoor LED lighting retrofits have also been completed at William Heise Regional Park, El Monte Regional Park, Cactus Park and Lake Morena Regional Park to increase energy efficiency and safety.

Lindo Lake Park

Solar Powered LED Lights at Rios Avenue Staging Area

The Rios Avenue Staging area has solar powered LED lights providing low, energy efficient night time lighting that requires no major underground utility involvement.

Energy Efficient Outdoor Lighting (Induction) at Various County Parks

Replaced lights at Sweetwater Summit, Lake Morena Regional and Cactus Parks with induction lighting that uses 50% less energy and lasts 5 to 10 times longer than a conventional light fixture.

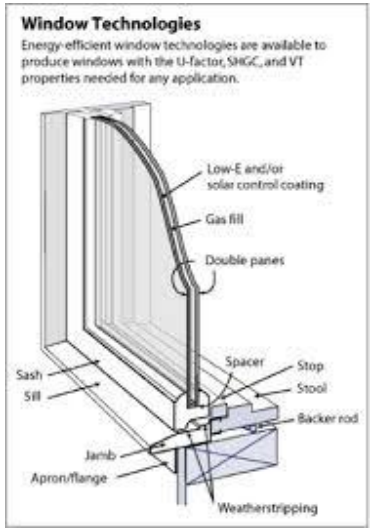
Energy Controls at Various County Parks

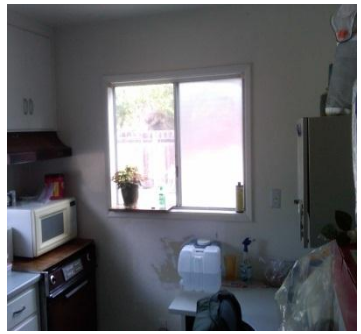
DPR added vending machine misers to vending machines and freezers and added occupancy sensors in various County Parks in 2009 including Agua Caliente, Sweetwater Lane, Sweetwater Summit, Lake Morena, Dos Picos, Heise, and Guajome Parks, Spring Valley Gym/Teen Center and the Fallbrook and Lakeside Community Centers. There is an anticipated 30% annual energy savings that is expected from the vending machine misers.

Lakeside Community Center

Dual Pane Windows at Various County Parks

Replaced the single pane windows at the Ranger's Office at Dos Picos, and at the ranger residences at Guajome Regional, Lake Morena, Lindo Lake, Otay Lakes, Pine Valley, Potrero, San Dieguito, Tijuana River Valley, Sweetwater Regional and Sweetwater Summit parks with new dual pane vinyl windows in 2012; saving an estimated 18% to 24% annually in electricity.





GREEN PROGRAMS

Energy Savings Adventures Program

In 2010 DPR partnered with San Diego Gas and Electric (SDG&E) and began the Energy Saving Adventures (ESA) program at our Teen Centers. The ESA program is a daily after-school program that uses experiments and field activities to teach teens the importance of energy conservation, water quality and clean air. Participation in the Energy Saving Adventures program has continued to exceed expectations since its inception. Both the 2011 and 2012 calendar years reached first quarter attendance highs of an average of 1,170 participants and approximately 140 hours of programming.

Program Achievements:

- Earth Day Energy Fair 2011: ESA, PEAK and San Diego State University (SDSU) worked together hosting the Spring Valley Teen Center's first energy fair with activities and presentations promoting energy efficiency and conservation.
- The Lakeside Teen Center facility reported a continuous energy reduction with numbers as low as 51.5% from previous years.
- Energy Skate Expo- May 2011, which was hosted by Lakeside REC and ESA, rallied support for the Lakeside Skate Park and increased community awareness of the energy efficient efforts of the ESA program. A total of 16 community sponsors for ESA, including local performers and 10 skate crew sponsors attracted over 500 attendees from all over the County to attend the Energy Skate Expo.
- Introduced the PEAK Student's curriculum into new school districts in the unincorporated areas of San Diego County.
- Collaborated with San Diego State University students to organize two ESA Events on Nov 20 2011 and April 28th 2012.
- "ESA Campout" bridged the gap between energy efficiency and recreation through conservation themed missions and activities.
- "Carbon Off Set Bike-A-Thon" explored local sustainability efforts and taught youth how to track carbon offset conversions. Local youth biked a total of 5.9 miles and offset an equivalent of 744 lbs. of Carbon Dioxide, which is the equivalent of planting 32 medium sized trees.
- ESA was highlighted by the National Recreation and Park Association (NRPA) Conservation Task Force in 2011.

The Energy Coalition's PEAK program is a comprehensive standards-based educational program designed to inform elementary and middle school students about many ways to manage energy use in their homes, schools and communities. Through hands-on learning, students can become inspired to take action to create a more sustainable world and to educate others about how to use energy wisely.

ESA Program Community Outreach Achievements:

- Attended 90 outreach events in 2010
- Distributed 200 CFL recycle kits
- Included SDG&E Energy Efficiency program announcements in 4 DPR newsletters
- County-wide distribution of LED lighting exchange schedule
- Attended 1 partnership lunch and learn
- Hosted 2 County employee LED Holiday Lighting exchange
- County Sponsored LED Holiday Lighting exchange at the Oceanside Farmers Market
- Created 1 Joint Collateral Piece that promotes SDG&E programs and services

To ensure that DPR is supporting the partnership to its fullest potential, DPR has continuously re-evaluated the ESA program curriculum that is offered at its Teen Center facilities.

Lakeside Teen Center

DPR's goal is to have ESA program participants educate their friends and families about green technology. In 2011, teen center youth began sharing the lessons learned from the ESA programming with the community by marketing green information to local residents.

2012 marked the launch of the continuous growth of the ESA program. As a leader in both recreation and energy efficiency, the Energy Coalition's PEAK program has turned to ESA for help in developing an after school site specific curriculum, which will include a program manual of original ESA curriculums and successful PEAK lesson adaptations. Upon completion, the manual will serve as a model for outside agencies and a reference for teen center staff.

In 2012, youth leaders from teen center facilities began working on articles to contribute to the ESA program's teen energy efficiency guide entitled, "Go GrEEn! A Guide to Awareness for Adventurous Teens".

In June 2012, ESA is planning to release A Quick Response (QR) code project developed and led by ESA staff highlighting energy efficiency in action at Disneyland Resort.

In 2012, ESA staff also began to develop an energy efficiency board game for teen facilities to help further establish the ESA program.

In 2011 the ESA Program received a NACPRO Award in recognition of outstanding environmental conservation programming in the field of parks and recreation.

Discovery Kit Environmental Educational Program

The award winning Discovery Kit Program sends up to 20,000 elementary school-age children on an outdoor environmental education adventure at Louis Stelzer County Park in Lakeside and at Dos Picos County Park in Ramona for science-based school field trips each year.

The program has assisted hundreds of educators and their students to explore the wealth of nature in their own backyards. The hands-on course includes pre-field trip activities for classroom use, field trip activities for use in the park, and post-field trip activities for classroom and home use. The curriculum is correlated with the California Science Framework and includes information on fire ecology and the Multiple Species Conservation Program (MSCP).

Louis Stelzer County Park

Dos Picos Regional Park Zero Waste Program

Dos Picos Park is a 78-acre regional park located in Ramona, CA that offers a variety of amenities including camping, hiking and picnic facilities. Dos Picos is becoming a zero waste facility and provides on-site recycling and composting bins for public use. Park rangers at Dos Picos Park are teaching the public that you can recycle and compost nearly all waste products while camping and picnicking at the park. Free compost kits are also available to the public at Dos Picos Park to encourage the recycling of green waste.

Community Garden Program

DPR established its first public community garden on a 25-acre leased property located immediately west of Tijuana River Valley Regional Park. The community garden provides over 200 (25' x 25') garden sites to local residents and it is managed by the Resource Conservation District. Currently, only 5-acres of the 25-acres property is developed for community garden use. The community garden at Tijuana River Valley Regional Park has become so popular that there is a 2 year waiting list for local residents.

Community gardens have also been established at Los Peñasquitos Canyon Preserve, Rancho Guajome Adobe, and Lindo Lake Park.

Green Projects Under Construction

Pine Valley Regional Park Synthetic Turf Conversion

DPR is converting three natural turf baseball/softball/multipurpose fields to synthetic turf fields at Pine Valley Park, which is a 17-acre regional park located in the unincorporated community of Pine Valley. The park serves thousands of local residents and a diverse variety of sports leagues. The existing baseball/softball fields consist of (2) 200' baseball/softball fields and (1) 185 X 150' multipurpose field. Construction is expected to be completed by Summer2015.

Planned Green Projects

Synthetic Turf Replacement Plan 2014 - 2015

DPR has completed a plan to convert sports fields to synthetic turf in appropriate areas as funding becomes available. A few examples are highlighted below.

La Presa Middle School Synthetic Turf Conversion

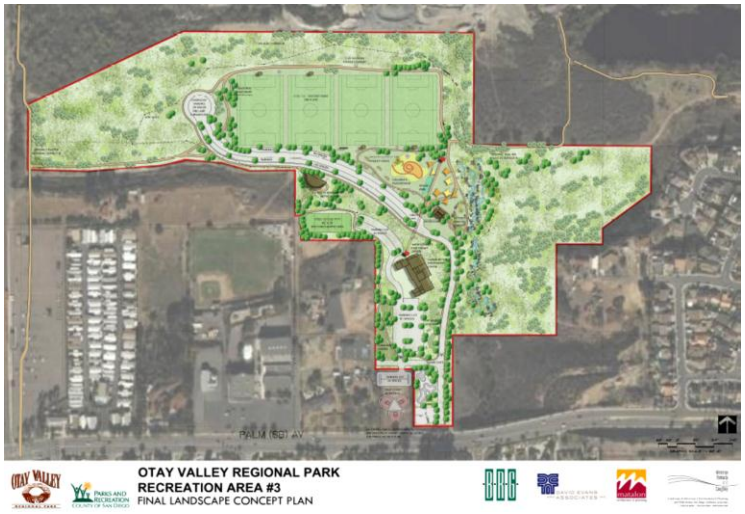
DPR is planning to convert two heavily used and deteriorated natural turf baseball/softball/multipurpose fields to synthetic turf fields at La Presa Middle School, which is located in Spring Valley. The existing baseball/softball/multipurpose fields consist of (1) 250' baseball/softball field, (1) 125' baseball/softball field and a 600' x 275' multipurpose field.

Tijuana River Valley Regional Park Synthetic Turf Conversion

DPR is planning to convert nine heavily used and deteriorated natural turf soccer/multipurpose fields to synthetic turf fields in the northern section of Tijuana River Valley Regional Park, which is a 1,800-acre regional park located south of Nester and immediately north of the border between the U.S. and Mexico. The park serves thousands of local residents and a diverse variety of sports leagues. The total turf area for these fields is 64-acres.

Otay Valley Regional Park Synthetic Turf Sports Fields

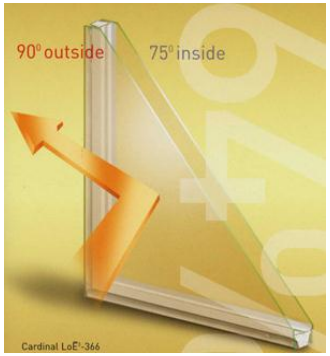
DPR is planning to build four synthetic turf soccer/multipurpose fields and one soccer arena in the northern section of Otay Valley Regional Park, which is a 200-acre regional park located in Chula Vista. The park serves thousands of local residents and a diverse variety of sports leagues.

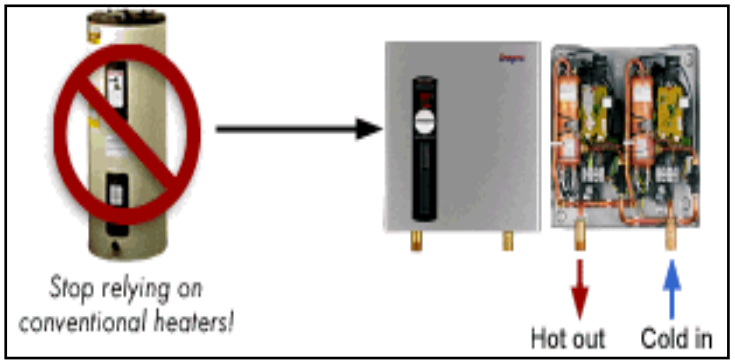


Otay Valley Regional Park Recreation Area #3 Concept Plan

Sustainable Major Maintenance

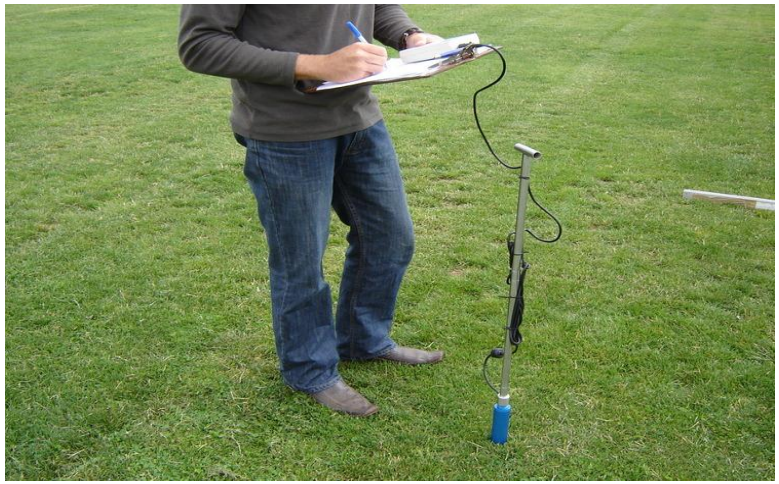
From 2007 to 2015, DPR was proactive in maintaining its park facilities by repairing or replacing failed or failing mechanical, electrical and plumbing, exterior and structural, and cosmetic components as necessary to return them to their intended use, to prevent further damage, or to make them compliant with changes in laws, regulations, codes or standards. During these efforts, DPR also upgraded existing park facilities to reduce energy and maintenance costs by installing high efficiency irrigation heads and Calsense smart controllers, "on demand" tankless hot water heaters, photovoltaic's, by converting potable irrigation systems to reclaimed water, and by replacing old windows, indoor and outdoor light bulbs and ballasts, toilets and urinals, faucets, and HVAC units with energy efficient equipment that help DPR to conserve energy and water.





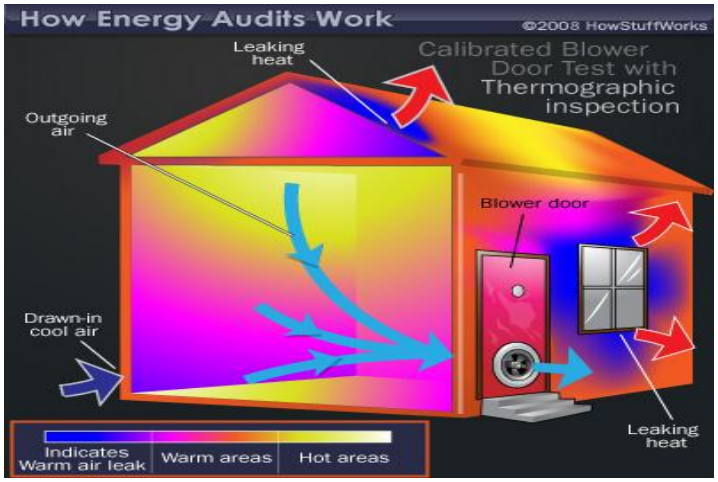
Irrigation Conservation Auditing

From 2007 to 2015, DPR performed irrigation audits as a tool for maximizing water use efficiency in its parks. The central goal of the irrigation auditing was to reduce water use and to improve the efficiency of existing irrigation systems. DPR partnered with the Metropolitan Water District and County Water Authority to perform water conservation audits at over 20 parks. DPR identified multiple areas in need of improvement in many of its irrigation systems through site inspections, performance testing and an examination of irrigation scheduling. Following the survey work, new irrigation measures were added to these parks including Calsense smart controllers, high efficiency irrigation heads, drip irrigation, low flow emitters and flow sensors, which has reduced water use by approximately 40%.



Energy Conservation Auditing

From 2007 to 2015, DPR performed energy audits as a tool for maximizing energy use efficiency in its parks. The central goal of the energy auditing was to reduce energy use and to improve the efficiency of existing energy systems. DPR partnered with SDG&E to perform energy conservation audits at our 10 highest energy consuming park facilities. DPR identified multiple areas in need of improvement in many of its energy systems through calibrated blower door tests with thermographic inspection, duct blaster and combustion safety tests. Audit recommendations (including replacing higher energy using devices with energy saving light bulbs, tubes and fixtures, HVAC units, motion sensors, and adding energy saving devices to vending machines and freezers) have been implemented at many DPR facilities.



The Future

DPR continues to investigate new green technologies and to explore their practical application to County Park projects. DPR is also interested in pursuing the following potential green projects as funding becomes available.

- Investigate the use of high capacity photovoltaic (CPV) modules for DPR under a pilot program.
- Recycle water used to clean photovoltaic panels in conjunction with evaluating PV system cleaning frequency.
- Monetize water and energy savings, and provide residual funding for planned system operations and maintenance and future green projects.

DPR will continue to strive to leverage County tax-payer dollars to best serve our park, recreation center and open space users as new technologies become available.

High Capacity Photovoltaic (CPV) Modules

Green Tips

- Carpool with coworkers or consider a car sharing service.
- Use mass transit.
- Consider buying a fuel efficient car or a hybrid.
- Drive the speed limit and combine all your errands for the week in one trip.
- Maintain the tire pressure of your car.
- Walk or ride a bike to complete your errands that are two miles or closer from your home or business.
- Recycle your newspapers, plastic and glass bottles, which will help to divert solid waste from landfills and reduce the impact on municipal services.
- Reuse your water bottles.
- Reduce your paper waste by printing on both sides of the paper and by using scrap paper.
- Go to your local library instead of buying new books.
- Think before you print your emails and attachments, we can save trees by only printing out necessary documents.
- Consider going paperless by reading your newspaper and magazine subscriptions online. Pay your bills online and request e-statements for bills instead of paper statements to save trees and never worry about a lost bill in the mail.
- Reduce use of plastic and paper bags by using reusable totes (most stores give a credit). Bring your own bags to the grocery store.
- Use reusable containers instead of plaster and paper bags.
- Conserve water by using low-flow faucets and showerheads and dual flush toilets and waterless urinals in your home or business.
- Conserve water by limiting the length of your showers, not running the water when brushing your teeth and washing your bath towels after several uses.
- Seal any air leaks in your home or business.
- Insulate the walls and ceilings of your home or business.
- Add solar panels to the roof of your home or business to turn sunlight into renewable energy.

- Add skylights and large windows to your home or business, which will allow daylight to stream in, reducing energy costs. Include adjustable blinds and shades on your windows to help reduce glare, and install lightshelves on your windows to bounce sunlight deep into a room and provide even light distribution.
- Use water and energy efficient appliances, and heating and cooling systems in your home or business.
- To save energy, keep your freezer and fridge well stocked with food, as the food will help to retain cooler temperatures.
- Conserve energy by using energy efficient light bulbs, by turning off lights and electronics when not in use, by washing laundry or dishes in cold water instead of hot and by running your dishwasher only with full loads.
- Replace light switches with motion or occupancy sensors. Lights will go on or off when someone enters or leaves a room. Motion sensors are perfect for the garage, exterior or security lighting. Other options include installing photocells or timers to turn lights off and on automatically.
- Save money and electricity by turning the temperature on your hot water heater and your thermostat down a few degrees, and buy a programmable thermostat to regulate the use of your heater and air conditioner.
- Wrap your old water heater in a water heater blanket.
- Turn off your computer completely at night to conserve energy.
- Use paint and carpet adhesives in your home or business that don't emit toxic gasses, and use ceiling tiles, wall systems and furniture made with non-toxic materials to improve the air quality of your home or business.
- Reduce the lawn area around your home and landscape instead with native plants that have lower watering needs and can offer habitat for local wildlife.
- Install efficient irrigation systems at your home or business that include smart controllers and drip and bubbler heads to conserve water.
- Add a green roof to your home or business, which will help to keep the building cool, save energy and provide a filter for storm water run-off.
- Provide porous pavement around your home or business, which will allow water to percolate through and into the ground recharging the ground water levels while relieving storm water systems and downstream bodies of water.
- Compost green waste (including old coffee grinds) and reuse them as a fertilizer for indoor or outdoor plants.
- Collect rainwater and use it to water your houseplants and garden.
- Buy local produce and organic fruits and vegetables.
- Buy eco-friendly clothing.
- If you have a baby, consider using cloth diapers.
- Replace toxic home cleaners with green cleaning products.

- Utilize green apps for energy monitoring.
- Invest in an energy audit of your home or business. For minimal cost you can get tips on where you could become more efficient in your home or business.
- Buy products that use recyclable materials whenever possible.
- Invest in sustainable products and services.

References

County of San Diego Department of Parks and Recreation (DPR) Publications:

Green Building/Park Design Checklist, May 2012, DPR

Synthetic Turf Replacement Plan 2013 – 2014, June 2013, DPR

U.S. Green Building Council (USGBC) Publications:

A Local Government Guide to LEED for Neighborhood Development, June 2010, USGBC

Energy Performance of LEED for New Construction, March 2008, New Buildings Institute

Finding Information on Green Building Materials, June 10, 2011, Environmental Design Library, UC Berkeley

Greening Our Built World: Costs, Benefits, and Strategies
2009, Kats, G.

Sustainable Design and Green Building Toolkit for Local Governments. 2010, U.S. EPA

The New Sustainable Frontier: Principles of Sustainable Development, 2009, U.S. General Services Administration

Green Resource Links:

County of San Diego Department of Parks and Recreation - Going Green: www.sdcounty.ca.gov/parks/green.html

Department of Energy: www.energy.gov/recovery

Department of Energy—Energy Efficiency and Renewable Energy: www.eere.energy.gov

U.S. Green Building Council: www.usgbc.org, www.usgbc.org/DisplayPage.aspx?CMSPageID=2078

Green buildings, neighborhoods and infrastructure: www.greenplaybook.org